

## Alg. 2 Warm Up #11-2

1. Simplify:

a.  $\sqrt{80x^8}$

b.  $(25x^{-6})^{1/2}$

2. Write in vertex form by completing the square.

$$y = x^2 - 10x + 1$$

Answers: Pink rev. WS

1)  $\frac{1}{16x^2}$

7)  $3y^4\sqrt{3x}$

2)  $5x^6$

8)  $(6x - 5y)(6x + 5y)$

3)  $\frac{1}{12x^6y^2}$

9)  $3x(4y^2 - x)$

4)  $\frac{2y^6}{3x^2}$

10)  $2(3x + 1)(x - 2)$

5)  $2\sqrt{6x}$

12) Parent:  $y = x^3$   
Reflect in x-axis,  
Shift Left 3, up 8

6)  $5y^3$

## Answers: Pink rev. WS

13)  $y = (x-4)^2 - 13$

17)  $\frac{x^2 + 5x + 5}{x(x+1)}$

14)  $\frac{1}{x-2}$

15)  $\frac{(x-5)(x+2)}{(x-2)^2}$

18)  $\frac{3x^2 - 14x + 6}{(x+2)(x-5)}$

16)  $\frac{x+5}{2}$

## HW Questions:

4-4. Solve each equation below, if possible, using any strategy. Check with your teammates to see what strategies they chose. Be sure to check your solutions.

a.  $4|8x-2|=8$

b.  $3\sqrt{4x-8}+9=15$

c.  $(x-3)^2 - 2 = -5 \Rightarrow \sqrt{x-3} = \sqrt{-3}$

d.  $(2y-3)(y-2) = -12y+18$

e.  $\frac{5}{x} + \frac{1}{3x} = \frac{4x}{3}$

f.  $|3-7x| = -6$  No Solution  
 $+ \neq -$

g.  $\frac{6w-1}{5} - 3w = \frac{12w-16}{15}$

h.  $(x+2)^2 + 4(x+2) - 5 = 0$

3(6w-1) - 45w = 12w - 16

$$x^2 + 4x + 4 + 4x + 8 - 5 = 0$$

$$x^2 + 8x + 7 = 0$$

$$(x+7)(x+1) = 0$$

4-10. Solve the system of equations shown at right.

$$\begin{cases} 2x + 6y = 10 \\ x = 8 - 3y \end{cases}$$

- Describe what happened when you tried to solve the system.
- Draw the graph of the system.
- How does the graph of the system explain what happened with the equations? Make your answer as clear and thorough as possible.

No Solution

parallel lines.

$$2(8 - 3y) + 6y = 10$$

$$16 - 6y + 6y = 10$$

$$16 \neq 10$$

13. Simplify each of the expressions below. Express your answers as simply as possible.

a.  $\frac{5x^2 - 11x + 2}{x^2 + 8x + 16} \cdot \frac{x^2 + 10x + 24}{10x^2 + 13x - 3}$

b.  $\frac{6x+3}{2x-3} \div \frac{3x^2-12x-15}{2x^2-x-3}$

c.  $\frac{5m+18}{m+3} + \frac{4m+9}{m+3}$

d.  $\frac{3a^2+a-1}{a^2-2a+1} - \frac{2a^2-a+2}{a^2-2a+1}$

$$\frac{(5x-1)(x-2)}{(x+4)(x+4)} \cdot \frac{(x+6)(x+4)}{(5x-1)(2x+3)}$$

$$\boxed{\frac{(x-2)(x+6)}{(x+4)(2x+3)}}$$

denominators are already the same, so just combine the numerators

$$\frac{a^2 + 2a - 3}{a^2 - 2a + 1}$$

$$\frac{(a+3)(a-1)}{(a-1)(a-1)}$$

Clear your desk for the test.  
Scientific calculator ok.

HW: 4 -

# 7 ---> 14, skip 10 & 13